

CLAIMS

1. A seal assembly comprising:
a rigid carrier;
an annular support member engaged with said rigid carrier and having
a lip defining an annular supporting surface; and
a seal having a first collar portion connected to said annular supporting
surface and defining a first sealing surface and a second collar portion extending past
said annular supporting surface and defining a second sealing surface.
2. The seal assembly of claim 1 wherein said first sealing surface
is concentric with respect to said annular supporting surface.
3. The seal assembly of claim 1 wherein said first and second
collar portions are integrally formed with respect to one another.
4. The seal assembly of claim 1 wherein said annular support
member comprises rubber.
5. The seal assembly of claim 1 wherein said seal further
comprises:
hydrodynamic features extending along said first and second sealing
surfaces.
6. The seal assembly of claim 1 wherein said seal further
comprises:
internally formed grooves extending along said first and second sealing
surfaces.
7. The seal assembly of claim 1 wherein said seal defines a
plurality of outwardly facing u-shaped recesses.

8. The seal assembly of claim 1 further comprising:
an annular living hinge portion extending between said first collar
portion second collar portion and past said lip of said annular support member.

9. The seal assembly of claim 8 wherein said annular living hinge
portion defines an annular notch.

10. A seal assembly comprising:
a wear sleeve adapted to encircle a rotatable shaft and having an
outwardly facing annular sealing surface;
a carrier having a tubular portion spaced from and substantially
concentric with said wear sleeve and a radial flange portion extending from said
tubular portion;
an annular support member connected to said radial flange portion
opposite said tubular portion and having a lip defining an annular supporting surface
opposing said annular sealing surface of said wear sleeve; and
a PTFE seal in sealing engagement with said wear sleeve and having a
first collar portion connected to said annular supporting surface and a second collar
portion extending from said first collar portion past said annular supporting surface.

11. The seal assembly of claim 10 further comprising:
an annular living hinge portion extending between said first collar
portion and said second collar portion and past said lip of said annular support
member.

12. A seal assembly comprising:
a wear sleeve adapted to encircle a rotatable shaft and having an
outwardly facing annular sealing surface;
a carrier having a tubular portion spaced from and substantially
concentric with said wear sleeve and a radial flange portion extending from the
tubular portion;

an annular support member connected to the end of the radial flange portion opposite the tubular portion and having a lip defining an annular supporting surface opposing the annular sealing surface of said wear sleeve; and

a PTFE seal in sealing engagement with said wear sleeve and having a first collar portion connected to the annular supporting surface and a second collar portion and an annular living hinge portion extending between the first collar portion second collar portion.

13. A seal assembly comprising:
 - a rigid carrier;
 - an annular support member of rubber molded to said rigid carrier and having a lip defining an annular supporting surface; and
 - a seal of PTFE material having a first collar portion connected to the annular supporting surface and a second collar portion an annular living hinge portion extending between the first collar portion second collar portion.

14. The seal assembly of claim 13 wherein the first collar portion, the second collar portion, and the annular living hinge portion are concentric.

15. The seal assembly of claim 13 wherein each of the first collar portion, the second collar portion, and the annular living hinge portion define sealing surfaces.